

Appl. No. 10/721,070  
Appl. Filed: November 26, 2003  
Amendment dated October 7, 2005  
Reply to Office Action of July 13, 2005

The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

**LISTING OF CLAIMS:**

1. (Previously Presented) A shift and brake control device comprising:  
a brake lever bracket configured to be mounted to a handlebar;  
a brake lever coupled to the brake lever bracket to move along a brake operating plane; and  
an electrical shift control switch fixedly mounted to the brake lever, the electrical shift control switch including an operating member arranged and configured to rotate relative to the brake lever between a first actuating position and a second actuating position about a pivot axis that is substantially parallel to the brake operating plane, the pivot axis being stationary relative to the brake lever.
  
2. (Previously Presented) The shift and brake control device according to claim 1, wherein  
the electrical shift control switch is further arranged and configured to include a neutral position with the operating member being further arranged and configured to move relative to the brake lever between the neutral position and the first and second actuating positions.
  
3. (Previously Presented) The shift and brake control device according to claim 2, wherein  
the electrical shift control switch further includes a biasing element arranged and configured to urge the operating member to the neutral position.
  
4. (Previously Presented) The shift and brake control device according to claim 1, wherein

the stationary pivot axis lies in the brake operating plane of the brake lever in which the brake lever is arranged to move between a rest position and a braking position.

5. (Cancelled)

6. (Previously Presented) The shift and brake control device according to claim 1, further comprising  
an additional electrical shift control switch fixedly mounted to the brake lever bracket.

7. (Previously Presented) The shift and brake control device according to claim 1, wherein

the electrical shift control switch further includes

a first stationary contact having a first stationary engagement surface,  
a first movable contact having a first movable engagement surface,  
the first movable contact being arranged and configured to be moved by the operating member such that the first movable engagement surface moves into electrical engagement with the first stationary engagement surface upon movement of the operating member to the first actuating position,  
a second stationary contact having a second stationary engagement surface, and  
a second movable contact having a second movable engagement surface, the second movable contact being arranged and configured to be moved by the operating member such that the second movable engagement surface moves into electrical engagement with the second stationary engagement surface upon movement of the operating member to the second actuating position.

8. (Previously Presented) The shift and brake control device according to claim 7, wherein

the electrical shift control switch further includes a biasing element arranged and configured to urge the operating member to a neutral position.

9. (Previously Presented) The shift and brake control device according to claim 7, wherein

the electrical shift control switch further includes a clicking structure arranged and configured to produce an audible sound upon selective movement of the operating member to either of the first and second actuating positions.

10. (Previously Presented) The shift and brake control device according to claim 1, wherein

the electrical shift control switch further includes

a first stationary contact having a first stationary engagement surface,

a second stationary contact having a second stationary engagement surface, and

a movable contact having a movable engagement surface, the movable contact being arranged and configured to be moved by the operating member such that the movable engagement surface selectively moves into electrical engagement with the first stationary engagement surface upon movement of the operating member to the first actuating position, and moves into electrical engagement with the second stationary engagement surface upon movement of the operating member to the second actuating position.

11. (Previously Presented) The shift and brake control device according to claim 10, wherein

the movable contact is arranged and configured such that the movable engagement surface moves into electrical engagement with the first stationary engagement surface with the movable engagement surface sliding across the first stationary engagement surface when the operating member moves to the first actuating position, and moves into electrical engagement with the second stationary engagement surface with the movable engagement surface sliding across the second stationary engagement surface when the operating member moves to the second actuating position.

12. (Previously Presented) The shift and brake control device according to claim 10, wherein

the movable contact is fixedly coupled to the operating member to rotate with the operating member about the pivot axis of the operating member.

13. (Previously Presented) A shift and brake control device comprising:  
a brake lever bracket configured to be mounted to a handlebar;  
a brake lever coupled to the brake lever bracket to move along a brake operating plane; and

an electrical shift control switch fixedly mounted to the brake lever, the electrical shift control switch including an operating member arranged and configured to rotate relative to the brake lever about a pivot axis that is not perpendicular to the brake operating plane,

the operating member including first and second actuating protrusions protruding outwardly with the first actuating protrusion having a first free end located farther from the pivot axis than a second free end of the second actuating protrusion.

14. (Previously Presented) The shift and brake control device according to claim 13, wherein

the pivot axis is stationary relative to the brake lever.

15. (Previously Presented) The shift and brake control device according to claim 13, wherein  
the pivot axis is substantially parallel with respect to the brake operating plane.

Claims 16-18. (Cancelled)

19. (Previously Presented) The shift and brake control device according to claim 13, wherein  
the electrical shift control switch is further arranged and configured to include a first actuating position and a second actuating position, the operating member being further arranged and configured to move between the first and second actuating positions.

20. (Previously Presented) The shift and brake control device according to claim 19, wherein  
the electrical shift control switch further includes a biasing element arranged and configured to urge the operating member to a neutral position located between the first and second actuating positions.

21. (Previously Presented) The shift and brake control device according to claim 13, further comprising  
an additional electrical shift control switch fixedly mounted to the brake lever bracket.

22. (Previously Presented) The shift and brake control device according to claim 21, wherein  
the additional electrical shift control switch includes an additional operating member arranged and configured to operate substantially identically as the operating member of the electrical shift control switch mounted to the brake lever.

23. (Cancelled)

24. (Cancelled)

25. (Previously Presented) The shift and brake control device according to claim 21, wherein

the additional electrical shift control switch is fixedly mounted to a lateral side of the brake lever bracket.

26. (Previously Presented) The shift and brake control device according to claim 25, wherein

the additional electrical shift control switch includes an additional operating member arranged and configured to operate substantially identically as the operating member of the electrical shift control switch mounted to the brake lever.

27. (Previously Presented) The shift and brake control device according to claim 19, wherein

the electrical shift control switch further includes

a first stationary contact having a first stationary engagement surface,

a first movable contact having a first movable engagement surface, the first movable contact being arranged and configured to be moved by the operating member such that the first movable engagement surface moves into electrical engagement with the first stationary engagement surface upon movement of the operating member to a first actuating position,

a second stationary contact having a second stationary engagement surface, and

a second movable contact having a second movable engagement surface, the second movable contact being arranged and configured to be moved by the operating member such that the second movable engagement surface moves into electrical

engagement with the second stationary engagement surface upon movement of the operating member to a second actuating position.

28. (Previously Presented) The shift and brake control device according to claim 27, wherein

the electrical shift control switch further includes a biasing element arranged and configured to urge the operating member to a neutral position.

29. (Previously Presented) The shift and brake control device according to claim 27, wherein

the electrical shift control switch further includes a clicking structure arranged and configured to produce an audible sound upon selective movement of the operating member to either of the first and second actuating positions.

30. (Previously Presented) The shift and brake control device according to claim 19, wherein

the electrical shift control switch further includes

a first stationary contact having a first stationary engagement surface,

a second stationary contact having a second stationary engagement surface, and

a movable contact having a movable engagement surface, the movable contact being arranged and configured to be moved by the operating member such that the movable engagement surface selectively moves into electrical engagement with the first stationary engagement surface upon movement of the operating member to the first actuating position, and moves into electrical engagement with the second stationary

engagement surface upon movement of the operating member to the second actuating position.

31. (Previously Presented) The shift and brake control device according to claim 30, wherein

the movable contact is arranged and configured such that the movable engagement surface moves into electrical engagement with the first stationary engagement surface with the movable engagement surface sliding across the first stationary engagement surface when the operating member moves to the first actuating position, and moves into electrical engagement with the second stationary engagement surface with the movable engagement surface sliding across the second stationary engagement surface when the operating member moves to the second actuating position.

32. (Previously Presented) The shift and brake control device according to claim 31, wherein

the movable contact is fixedly coupled to the operating member to rotate about a rotationally operating axis of the operating member.

Claims 33-49. (Cancelled)

50. (Previously Presented) The shift and brake control device according to claim 20, wherein

the brake lever has a pair of outer lateral surfaces that are substantially parallel to the brake operating plane, and at least one of the first and second actuating protrusions lies completely between the outer lateral surfaces of the brake lever when the operating member is in the neutral position.

51. (Previously Presented) The shift and brake control device according to claim 50, wherein

the first and second free ends are circumferentially spaced from each other within an arc no larger than 180 degrees as measured about the pivot axis.

52. (Previously Presented) The shift and brake control device according to claim 13, wherein

the first and second free ends are circumferentially spaced from each other within an arc no larger than 180 degrees as measured about the pivot axis.

53. (Previously Presented) The shift and brake control device according to claim 13, wherein

the operating member includes a shaft having an outer end with a user engagement element coupled thereto and an inner end configured and arranged to selectively move a pair of movable contacts into engagement with a pair of stationary contacts.

54. (Previously Presented) The shift and brake control device according to claim 53, wherein

one of the movable contacts is arranged to remain stationary relative to the operating member when the other of the movable contacts is moved.

55. (Previously Presented) The shift and brake control device according to claim 27, wherein

the first movable contact is arranged to remain stationary relative to the operating member when the second movable contact is moved, and the second movable contact is arranged to remain stationary relative to the operating member when the first movable contact is moved.

56. (Previously Presented) The shift and brake control device according to claim 2, wherein

the operating member includes a first actuating protrusion protruding outwardly to a first free end spaced from the pivot axis, and a second actuating protrusion protruding outwardly to a second free end spaced from the pivot axis.

57. (Previously Presented) The shift and brake control device according to claim 56, wherein

the brake lever has a pair of outer lateral surfaces that are substantially parallel to the brake operating plane, and at least one of the first and second actuating protrusions lies completely between the outer lateral surfaces of the brake lever when the operating member is in the neutral position.

58. (Previously Presented) The shift and brake control device according to claim 56, wherein

the first and second free ends are circumferentially spaced from each other within an arc no larger than 180 degrees as measured about the pivot axis.

59. (Previously Presented) The shift and brake control device according to claim 1, wherein

the operating member includes a shaft having an outer end with a user engagement element coupled thereto and an inner end configured and arranged to selectively move a pair of movable contacts into engagement with a pair of stationary contacts.

60. (Previously Presented) The shift and brake control device according to claim 59, wherein

one of the movable contacts is arranged to remain stationary relative to the operating member when the other of the movable contacts is moved.

61. (Previously Presented) The shift and brake control device according to claim 7, wherein

the first movable contact is arranged to remain stationary relative to the operating member when the second movable contact is moved, and the second movable contact is arranged to remain stationary relative to the operating member when the first movable contact is moved.

62. (Previously Presented) A shift and brake control device comprising:  
a brake lever bracket configured to be mounted to a handlebar;  
a brake lever coupled to the brake lever bracket to move along a brake operating plane, the brake lever having a pair of outer lateral surfaces that are substantially parallel to the brake operating plane; and

an electrical shift control switch fixedly mounted to the brake lever, the electrical shift control switch including an operating member arranged and configured to rotate relative to the brake lever between a rest position and at least one actuating position about a pivot axis that is not perpendicular to the brake operating plane,

the operating member including a first actuating protrusion having a first free end spaced from the pivot axis and a second actuating protrusion having a second free end spaced from the pivot axis, at least one of the first and second actuating protrusions lying completely between the outer lateral surfaces of the brake lever when the operating member is in the rest position.

63. (Previously Presented) A shift and brake control device comprising:  
a brake lever bracket configured to be mounted to a handlebar;  
a brake lever coupled to the brake lever bracket to move along a brake operating plane; and

an electrical shift control switch fixedly mounted to the brake lever, the electrical shift control switch including an operating member arranged and configured to rotate relative to the brake lever between a rest position and at least one actuating position about a pivot axis that is not perpendicular to the brake operating plane,

the operating member including a first actuating protrusion having a first free end spaced from the pivot axis and a second actuating protrusion having a second free end spaced

from the pivot axis, the first and second free ends being circumferentially spaced from each other within an arc no larger than 180 degrees as measured about the pivot axis.

64. (Currently Amended) A shift and brake control device comprising:  
a brake lever bracket configured to be mounted to a handlebar;  
a brake lever coupled to the brake lever bracket to move along a brake operating plane; and

an electrical shift control switch including an operating member, the electrical shift control switch being at least one of

mounted to the brake lever with the operating member of the electrical shift control switch arranged and configured to rotate relative to the brake lever about a pivot axis that is not perpendicular to the brake operating plane[[,]]; and

~~mounted to the brake lever bracket with the operating member of the electrical shift control switch arranged and configured to rotate relative to the brake lever bracket about a pivot axis that is not parallel to the brake operating plane;~~

the electrical shift control switch including

a first stationary contact having a first stationary engagement surface,

a first movable contact having a first movable engagement surface, the first movable contact being arranged and configured to be moved by the operating member such that the first movable engagement surface moves into electrical engagement with the first stationary engagement surface upon movement of the operating member to the first actuating position,

a second stationary contact having a second stationary engagement surface, and

a second movable contact having a second movable engagement surface, the second movable contact being arranged and

configured to be moved by the operating member such that the second movable engagement surface moves into electrical engagement with the second stationary engagement surface upon movement of the operating member to the second actuating position,

the first movable contact being arranged to remain stationary relative to the operating member when the second movable contact is moved, and the second movable contact being arranged to remain stationary relative to the operating member when the first movable contact is moved.

65. (Cancelled)

66. (Previously Presented) The shift and brake control device according to claim 64, wherein

the electrical shift control switch further includes a biasing element arranged and configured to urge the operating member to a neutral position.

67. (Previously Presented) The shift and brake control device according to claim 64, wherein

the electrical shift control switch further includes a clicking structure arranged and configured to produce an audible sound upon selective movement of the operating member to either of the first and second actuating positions.

68. (Previously Presented) The shift and brake control device according to claim 64, wherein

the operating member includes a shaft having an outer end with a user engagement element coupled thereto and an inner end configured and arranged to selectively move a pair of movable contacts into engagement with a pair of stationary contacts.

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69. (Currently Amended) A shift and brake control device comprising:  
a brake lever bracket configured to be mounted to a handlebar;  
a brake lever coupled to the brake lever bracket to move along a brake operating plane; and  
an electrical shift control switch including an operating member, the electrical shift control switch being ~~at least one of~~  
mounted to the brake lever with the operating member of the electrical shift control switch arranged and configured to rotate relative to the brake lever about a pivot axis that is not perpendicular to the brake operating plane[[,]];  
and  
~~mounted to the brake lever bracket with the operating member of the electrical shift control switch arranged and configured to rotate relative to the brake lever bracket about a pivot axis that is not parallel to the brake operating plane;~~  
the operating member of the electrical shift control switch including a shaft having an outer end with a user engagement element coupled thereto and an inner end configured and arranged to selectively move a pair of movable contacts into engagement with a pair of stationary contacts.

70. (Cancelled)

71. (Previously Presented) The shift and brake control device according to claim 69, wherein  
one of the movable contacts is arranged to remain stationary relative to the operating member when the other of the movable contacts is moved.